

Title (en)
PROCESS FOR THE FORMATION OF GROOVES HAVING ESSENTIALLY VERTICAL LATERAL SILICIUM WALLS BY REACTIVE ION ETCHING

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Abstract (en)
[origin: US4589952A] A method of making trenches having substantially vertical sidewalls in a silicon substrate using a three level mask comprising a thick photoresist layer, a silicon nitride layer and a thin photoresist layer. Openings are formed in the thin photoresist layer and silicon nitride layer by reactive ion etching in CF₄. The openings are continued through the thick photoresist by etching in an atmosphere containing oxygen. The exposed surface of the silicon substrate is then etched in a CF₄ atmosphere containing a low concentration of fluorine. Also disclosed is a method of making an electron beam transmission mask wherein the openings are made using the three level mask and reactive ion etching of silicon using the etching technique of the invention.

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